



## Exoedicerotidae\*

L.E. HUGHES

Crustacea section, Australian Museum, 6 College Street, Sydney, New South Wales, 2010, Australia

([lauren.hughes@austmus.gov.au](mailto:lauren.hughes@austmus.gov.au))

\* In: Lowry, J.K. & Myers, A.A. (Eds) (2009) Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef, Australia. *Zootaxa*, 2260, 1–930.

### Abstract

This paper reports on a new species of *Parhalimедon* from the Great Barrier Reef, Australia.

**Key words:** Crustacea, Amphipoda, Exoedicerotidae, Great Barrier Reef, Australia, taxonomy, new species, *Parhalimедon kyhursti*

### Introduction

The family Exoedicerotidae includes 19 species in 12 genera, seven of which are monotypic. All species in the family are known from the southern hemisphere except for three: *Kanaloа manoa* J.L. Barnard, 1970, from Hawaii; *Vadosiapus copacabanus* Barnard & Thomas, 1988 from Brazil; and *Metoediceropsis dadoensis* Dang, 1968 from Vietnam.

The genus *Parhalimедon* currently contains two species: *P. tropicalis* J.L. Barnard, 1961 from deep water (200 m+) off the northern coast of New South Wales, western Tasman Sea and *P. turqueti* Chevreux, 1906 from South Georgia and the Antarctic Peninsula in 20 – 25 m depth. *Parhalimедon kyhursti* **sp. nov.**, described here from shallow-waters of the Great Barrier Reef, is the third species for the genus. Although limited material of *Parhalimедon kyhursti* **sp. nov.** is known, only 47 individuals from two sites, records indicate a large geographic range, from Lizard Island and Heron Island at the northern and southern extents of the Great Barrier Reef, respectively.

### Methods and materials

The descriptions were generated from a DELTA database (Dallwitz 2005) to the Exoedicerotidae genera and *Parhalimедon* species of the world. Material reported is lodged in the Australian Museum, Sydney (AM). A set of colour plates, a list of standard abbreviations and detailed station data is available in Lowry & Myers (2009). A CD (*Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef: Interactive Keys*) is available with the book or the keys can be accessed at the [crustacea.net](http://crustacea.net) website.

## Exoedicerotidae Barnard & Drummond, 1982

### *Parhalimedon* Chevreux, 1906

#### *Parhalimedon kyhursti*

(Figs 1, 2, Pl. 3E)

**Type material.** Holotype, female (dissected, 3 slides), 6.0 mm, AM P80173 (QLD 56); 200 m north-west of Palfrey Island, Lizard Island, Queensland (14°40'S 145°28'E), sand from base of reef slope, edge of patch reef, 12.2 m, P. Terrill, 14 October 1978. Paratypes: 1 female (partial dissection), AM P80171 (QLD 56); 1 male (dissected, 2 slides), AM P80172 (QLD 56); 6 unsexed specimens, AM P80174 (QLD 56).

**Additional material examined.** 8 unsexed, AM P28310 (HI-3); 2 unsexed, AM P80170 (JML16-10-9); 2 unsexed, AM P28464 (QLD 13); 1 unsexed, AM P71291 (QLD 1763); 9 unsexed, AM P70840 (QLD 1666); 3 unsexed, AM P78146 (QLD 46); 3 unsexed, AM P70905 (QLD 1672); 9 specimens, AM P70840 (QLD 1666); 1 female, Photo, AM P70780 (QLD 1666).

**Type locality.** 200 m north-west of Palfrey Island, Lizard Island, Queensland (14°40'S 145°28'E).

**Etymology.** Named for the Queensland long distance swimmer Ky Hurst.

**Description.** Holotype, female, 6.0 mm, AM P80173.

**Head.** *Head* rostrum small, less than one third of head depth. *Eyes* subovoid. *Antennae 1* flagellum 10 - articulate; calceoli absent. *Antennae 2* unknown. *Mandible* accessory setal row with 4 setae; molar well developed, triturative; palp clavate. *Maxilla 1* inner plate medial margin with row of setae; palp with short bicuspidate robust setae and with slender setae. *Maxilla 2* inner plate with oblique setal row. *Maxilliped* palp extending only slightly beyond inner plate; inner plate broad and enlarged, with evenly spaced rows of short robust setae.

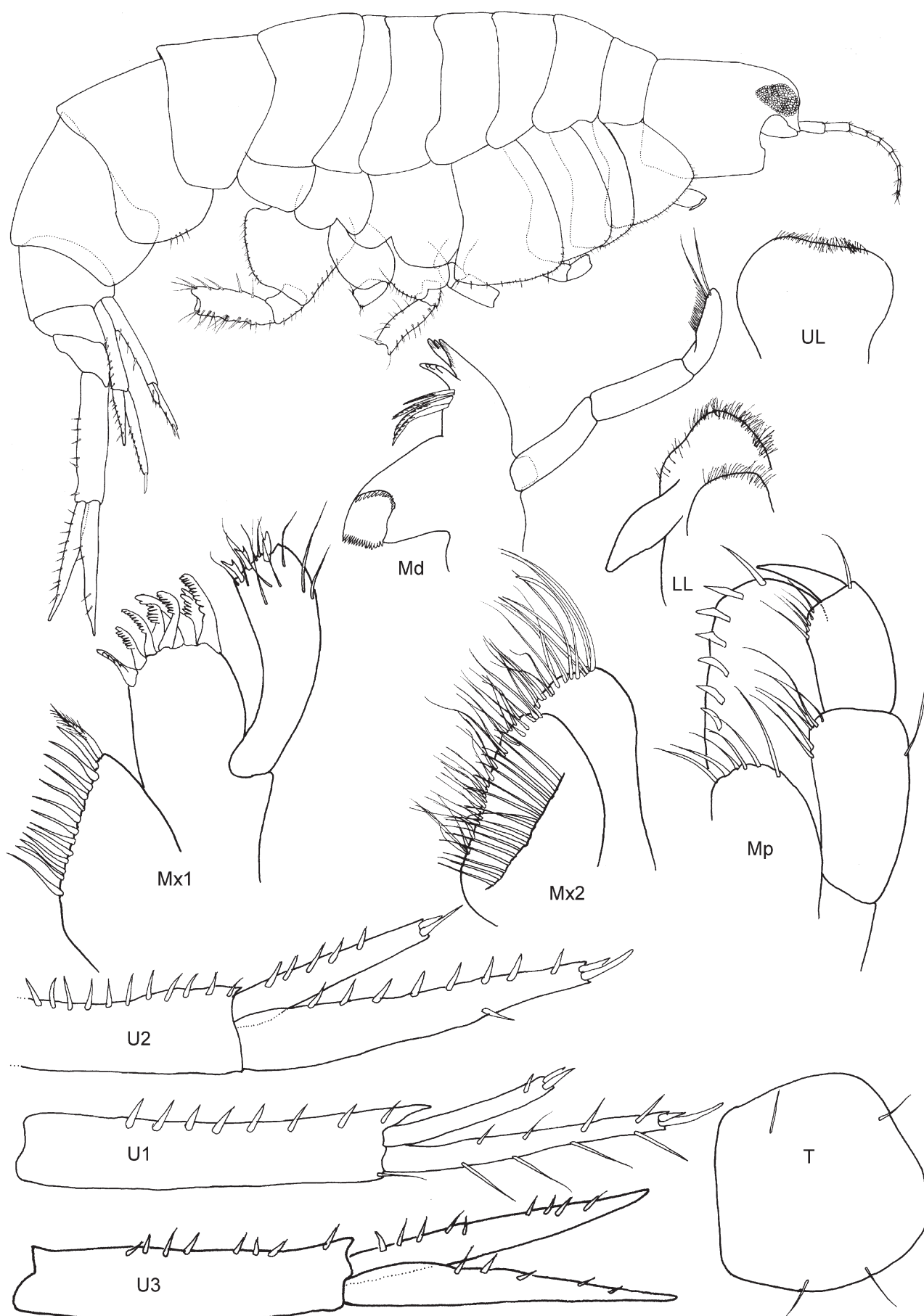
**Pereon.** *Gnathopods 1 and 2* similar in males and females, reduced. *Gnathopod 1* coxa large, not hidden by coxa 2; carpus about as long as propodus, three times as long as broad; propodus weakly subchelate; dactylus well developed. *Gnathopod 2* carpus four times as long as broad, about as long as propodus; dactylus well developed. *Pereopod 4* coxa posterior margin without posteroventral lobe. *Pereopod 7* articles distally tapering towards the dactylus; basis distally narrow, much longer than pereopod 5 and 6, with posteroventral margin excavate.

**Pleon.** *Epimeron 1–3* with many marginal setae. *Epimeron 2* posteroventral corner without spine. *Epimeron 3* posteroventral corner subquadrate. *Uropod 1* peduncle longer than rami, with distomedial spur; rami with apical robust setae present; inner ramus longer than outer ramus. *Uropod 2* peduncle lined with short slender robust setae; rami with apical robust setae present; inner ramus longer than outer ramus. *Uropod 3* biramous, greatly enlarged, reaching beyond uropod 1, with long slender rami; rami apical robust setae absent, margins with slender robust setae. *Telson* weakly subquadrate; apical margin concave, with a pair of apical and lateral short slender setae.

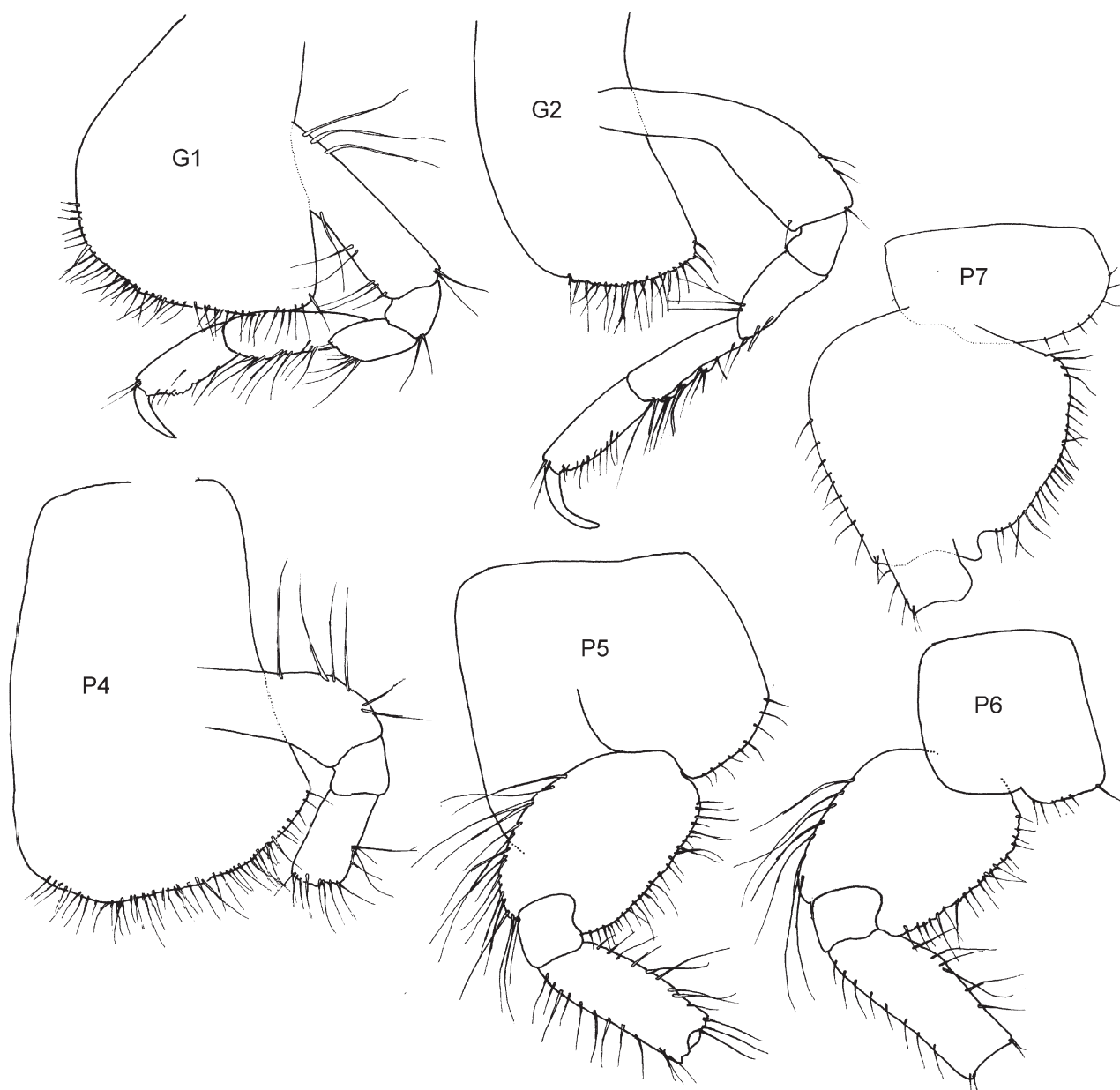
**Habitat.** Marine, shallow-water, fine and coarse sand.

**Remarks.** *Parhalimedon kyhursti* **sp. nov.** is placed within the genus based on the following characters: maxilliped with enlarged inner plates; pereopod 7 basis narrow distally; and uropods 1–2 with the inner ramus longer than the outer ramus. In *P. kyhursti* and *P. turqueti* antenna 1 has fewer articles (10–11 - articulate) than in *P. tropicalis* (~14–articulate). The apical margin of the telson is convex in *P. kyhursti*, straight in *P. tropicalis* and concave in *P. turqueti*. The new species also differs from *P. tropicalis* and *P. turqueti* in the carpus of gnathopods 1–2 which is subequal in length to the propodus.

**Distribution.** *Australia.* Queensland: Lizard Island; Heron Island (current study).



**FIGURE 1.** *Parhalimedes kyhursti* **sp. nov.**, holotype, female, 6.0 mm, AM P80173, Palfrey Island, Lizard Island, Great Barrier Reef.



**FIGURE 2.** *Parhalimedes kyhursti* **sp. nov.**, holotype, female, 6.0 mm, AM P80173, Palfrey Island, Lizard Island, Great Barrier Reef.

## References

- Barnard, J.L. (1961) Gammaridean Amphipoda from depths of 400 to 6000 meters. *Galathea Report*, 5, 23–128.
- Barnard, J.L. (1970) Sublittoral Gammaridea (Amphipoda) of the Hawaiian Islands. *Smithsonian Contributions to Zoology*, 34, 1–286.
- Barnard, J.L. & Drummond, M.M. (1982) Redescription of *Exoediceros fossor* (Stimpson, 1856) an Australian marine fossorial amphipod, the type-genus of the new family Exoedicerotidae. *Proceedings of the Biological Society of Washington*, 95(3), 610–620.
- Barnard, J.L. & Thomas, J.D. (1988) *Vadosiapus copacabanus*, a new genus and species of Exoedicerotidae from Brazil (Crustacea, Amphipoda). *Proceedings of the Biological Society of Washington*, 101(2), 366–374.
- Chevreaux, E. (1906) Diagnoses d'amphipodes nouveaux provenant de l'expédition antarctique du français. Iii. Oediceridae - Calliopidae. *Bulletin de la Société Zoologique de France*, 31, 76–80.
- Dallwitz, M.J. (2005) Overview of the DELTA System, <http://delta-intkey.com>, Last accessed (16/12/2008).
- Dang, N.T. (1968) [Nouveaux amphipodes des eaux douces et saumâtres du Nord Viet Nam]. *Zoologicheskij Zhurnal*, 47(2), 212–222.
- Lowry, J.K. & Myers, A.A. (2009) Foreword. In: Lowry, J.K. & Myers, A.A. (Eds), Benthic Amphipoda of the Great Barrier Reef, Australia. *Zootaxa*, 2260, 17–108.